

**HIC04158**

**What is Effective Physical Education Teaching and can it be  
Promoted with Generalist Trained Elementary  
School Teachers?**

**Clive Hickson**

**Graham J. Fishburne**

**University of Alberta  
Edmonton, Canada**

# **What is Effective Physical Education Teaching and can it be Promoted with Generalist Trained Elementary School Teachers?**

## **Abstract**

Classroom research has been able to determine effective teaching practices that result in positive learning outcomes (Borich, 1996). However, research has demonstrated that teachers in a physical education environment often regard their lessons to be successful when children are *busy, happy, and good* (Placek, 1983) and that student learning is of a low priority (Hickson & Fishburne, 2002). This research study was conducted to gain an understanding of how effective physical education teaching practices can be developed in elementary school teachers. Three volunteer elementary teachers participated in a teacher development program. The program was introduced as an intervention program utilizing a single-case, multiple baseline research design. Student behavioural data, pre- and post-intervention, in physical education classes were recorded and analyzed through duration recording methods. Attitudinal data were also collected through teacher and student interviews. Results indicated that the teacher development program changed teaching behaviours. After the introduction of the intervention program, student behavioural data indicated an increase student engagement rates and a decrease in those behaviours contributing to non-engaged time. Both teachers and students indicated that teaching had become more productive, that learning became of a greater importance, and that time for activity increased during lessons.

## **Introduction**

For children to reach their full potential in our schools, it would seem to be essential that teachers engage in effective teaching practices (Hickson & Fishburne, 2001). Classroom based investigation has been able to determine effective research-based teaching practices that are related to positive learning outcomes (Borich, 1996). This understanding has led to the use of the term *effective teaching*.

The majority of the research on effective teaching has been conducted in the classroom environment, concentrating on more traditional subject areas such as mathematics and language arts. A relatively small amount of information has been gathered in the area of physical education. Consequently, knowledge of what is effective teaching in physical education and how it supports student-learning outcomes is relatively thin, with only a small number of studies providing insight. It is a research gap that needs to be attended to if teachers of physical education are to truly understand how to support student learning by effective teaching.

## **Related Literature**

In recent years, there has been considerable interest in the identification of teaching skills and competencies. The monitoring of standards and the quality of teaching performance has become most apparent in public schools (Mawer, 1995). The notion of being an effective teacher is an important and a critical goal for educators (Bellon, Bellon, & Blank, 1992) if they are to become better at what they do and if a knowledge base is to be developed in order to train and educate those teachers entering the profession (Rink, 1996). Although effective teaching is a term that can be difficult to define in a precise manner (Kirchner & Fishburne, 1998), it can be argued, that teachers are viewed as effective in their teaching when students achieve intended learning outcomes (Berliner, 1987; Brophy, 1979; Gage, 1978; Harris, 1999; Rosenshine, 1987).

## Effective Teaching

### *Classroom Research*

Although teaching has been a focus of attention for many years, research on teaching is still a relatively new field of inquiry. Initially, studies tended to be focused on teachers, not on the learning environment, trying to identify characteristics or qualities of effective teachers (Medley, 1987). For example, the initial idea of an effective teacher in the early 1900s was a judgement primarily based on the "goodness" of a person. Honesty, generosity, friendliness, dedication, and consideration were all regarded to be vital components of an effective teacher. These personal qualities needed to be demonstrated in an authoritarian, disciplined, and organized classroom (Borich, 1996). Unfortunately, this definition of an effective teacher lacked any objective standards of performance.

It was not until the 1960s that there was a shift in the focus from the personal characteristics of teachers to teacher and student behaviours (Bloom, 1981). For the first time, researchers began to visit classrooms to gather information, specifically to study teacher and student interactions. Instruments were developed to measure classroom interactions: frequency of interaction, types of questions, and response rates. These instruments were employed in research studies in the belief that effective teaching behaviours could be identified and, once identified, could be taught to teachers (Bellon et al, 1992).

During the 1980s, research tried to identify the facets of classroom teaching that promoted an effective learning environment for children. Much of what we do know about effective teaching comes from this research base. These well-conducted classroom research studies attempted to identify what teachers do to produce student learning (Brophy & Good, 1986).

In a review of research studies that showed an impact on student achievement and learning, Borich (1996) summarized effective teaching methods and outlined five *key* teaching behaviours that were supported by research: lesson clarity; instructional variety; teacher task orientation; engagement in the learning process; and student success rate. Borich also found that five other behaviours seem to be related to effective teaching. He identified this second group of teaching behaviours as *helping behaviours*. However, the research identifying these helping behaviours is not as extensive as the research support for the original five key behaviours, and so the findings are not as conclusive. Nevertheless, using student ideas and contributions, structuring, questioning, probing, and teacher affect have been identified as additional behaviours that act as a catalyst to enhance the performance of the five key behaviours.

### *Research on Teaching in Physical Education*

As the majority of the research on effective teaching has been concentrated in traditional academic subject areas such as mathematics and language arts, physical educators were left to develop their own parallel research studies that were specific to their context. Hence, compared to most school subjects, physical education was a late arrival on the teacher effectiveness scene (Mawer, 1995). The major research studies involving effectiveness in physical education have studied such areas as student engagement, curriculum time allocation, teaching methods, teacher behaviour, and teacher perceptions, but have not applied the classroom research findings identified by researchers such as Borich (1996).

With regard to effective teaching in the realm of physical education, studies indicate that

many teachers believe they are teaching effectively (Romar & Siedentop, 1995 as cited in Siedentop, 1998). This conclusion is based primarily on the teacher's own perception of important teaching criteria: such as explanation, feedback, demonstration, and student enjoyment. According to Siedentop, for the most part, these perceptions could be considered accurate. Teachers do include explanation, feedback, and demonstration in their lessons, and students do enjoy classes. However, it could be suggested, from the definitions of effective teaching provided by Berliner (1987), Brophy (1979), Gage (1978), Harris (1999) and Rosenshine (1987), that such teacher perceptions are not accurate measures of effectiveness since student learning is not considered.

It would seem that if student learning is a goal of teaching, then teachers should view student learning as being of prime importance. However, in the area of physical education, there is research evidence to suggest that this is not necessarily the case (Borys & Fishburne, 1986; Fishburne & Borys, 1987; Hickson & Fishburne, 2002; Placek, 1983; Schempp, 1983, 1985). Placek (1982 as cited in Placek 1983) investigated teacher planning in physical education. She noted that student behaviour and environmental unpredictability had the greatest impact on a teacher's planning. Placek noted that successful physical education teaching was often defined by the teachers as keeping students participating (busy), with minimal misbehaviour (good), while providing enjoyment (happy). Placek concluded that the teachers were more concerned about student behaviour than the transmission of knowledge. In an attempt to further understand physical education teaching, Placek (1983) investigated student teachers' perceptions of successful and unsuccessful physical education teaching. Similar to experienced teachers, Placek reported that student teachers regarded successful teaching when their students were being *busy, happy, and good*.

Schempp (1983), in studying the transformation from student teacher to teacher, found that student teachers rated physical education activities that were teacher approved as being very important. However, it was not the activity that was of key importance, but student engagement in the activity. In analyzing student teaching, Schempp (1985) noted that keeping students busy was of prime importance for student teachers when teaching physical education. Student teachers were satisfied when students were working (busy), enjoying themselves (happy), and were responding with questions and doing as they were told (good).

Borys and Fishburne (1986) replicated Placek's (1983) research in a Canadian university setting with high school preservice teachers. Their findings supported the conclusions drawn by Placek. Student teachers conceive successful physical education teaching not to be related to student learning but rather in keeping students busy, happy, and good. In gathering further information on successful physical education teaching, Fishburne and Borys (1987) compared the conceptions of elementary school preservice teachers with those of experienced elementary school teachers. Once again, learning was not found to be the prime goal associated with successful teaching. Hickson and Fishburne (2002) in a study comparing elementary school preservice teachers' and experienced elementary school teachers' perceptions of successful physical education teaching compared to other curriculum areas, found that in physical education teaching the trend of *busy, happy, and good* was evident for both student teachers and experienced teachers, with student learning receiving a low priority. However, when considering successful teaching in other curriculum areas, both student teachers and experienced teachers, rated student learning as the highest indicator of successful teaching.

The research findings of these studies suggest that both student teachers and experienced teachers regard successful teaching of physical education differently from the definitions of effective teaching provided by Berliner (1987), Brophy (1979), Gage (1978), Harris (1999) and

Rosenshine (1987).

### ***Characteristics of Effective Physical Education Teaching***

In a review of physical education teaching research, Silverman (1991) suggested the following characteristics for the effective teaching of motor skills: the planning for class management and student learning; the anticipation of situations and contingency plans; the awareness of individual student skill differences and use of such information in planning and monitoring; the acquisition of information to plan; the knowledge of, and when to use, a repertoire of teaching styles; the accuracy and focus of explanation and demonstration; the provision for adequate student practice time; the maximization of appropriate student practice and engagement; the minimization of inappropriate student practice and engagement; and the minimization of pupil waiting. However, Silverman's review has come under criticism by researchers (Mawer, 1995). For example, one of the criticisms from Dodds and Placek (1991) was that the "...list also focuses on what teachers do, ignoring both the specific student outcomes that accrue as a result and intended teacher goals relevant to a given teaching situation" (p. 367).

Rink (1993) also reviewed the research on effective teaching and identified seven distinct teacher characteristics associated with effective instruction in the physical education realm. She identified the following teacher characteristics: the identification of intended outcomes for learning; the planning of learning experiences to accomplish these outcomes; the presentation of tasks in a clear manner; the organization and management of the learning environment; the monitoring of the environment; the development of the lesson content based on student responses; and the evaluation of the effectiveness of instructional/curricular process.

Mawer (1995) in a review of research and viewpoints on effective teaching of physical education, suggested that the following characteristics are indicative of effective teaching: the planning of work effectively; the good presentation of new material; the organization and management of the learning experiences and students; the active involvement of the teacher in teaching students; the provision of a supportive and positive learning environment; the acquisition of a repertoire of teaching styles; and the ability to teach for the facilitation of student understanding of concepts and lesson content.

The characteristics suggested by Silverman (1991), Rink (1993) and Mawer (1995) bear some similarity to Borich's (1996) work. Several factors such as lesson clarity, structure, involving student ideas, and instructional variety have a commonality among the lists. However, there seems to be little, if any, research that has directly looked at the suggested characteristics of effective teachers from the research reviews of Silverman, Mawer, Rink or Borich to determine if the identified characteristics actually do affect student learning in the physical education domain.

### **Purpose of the Study**

The purpose of this study was to gain an understanding of what is effective teaching in physical education. This is a research gap that needs to be attended to if teachers of physical education are to truly understand how to support student learning. Therefore, this research study examined the effectiveness of a teacher development program on teacher behaviour and, ultimately, the student-learning environment in a physical education setting.

## Research Design

The research study utilized two methods of data gathering. A single-case, multiple baseline design was employed to determine the effectiveness of the teacher development program intervention strategy and interviews were conducted in order to understand the teachers' opinions of the teacher development program and their teaching and also to understand the students' opinions of their physical education lessons.

The independent variable in this study was a teacher development program. The program was developed from the conclusions drawn from classroom research and from the opinions of physical education researchers about effective teaching characteristics. The dependent variables in this study were the student behaviours that have been identified by researchers as being important determinants of lesson effectiveness for student learning. These variables were the amount of lesson time that students spent: waiting; in transition; in management activity; in inappropriate activity; receiving information; in engaged activity, and in off-task activity. Student behavioural data were collected through the use of a systematic observation system, Duration Recording. Teacher opinions of the teacher development program were collected through personal interviews. Similarly, student data were also collected through interviews in order to understand their opinions of their physical education lessons.

## Participants

Three generalist trained elementary school teachers from the same elementary school were selected for this research study. The selection of the three teachers was based upon their declared personal interest in participating in the research study. All three teachers were female and their years of teaching experience ranged from three to nineteen years. Teacher A was a female, grade 4/5 teacher with 25 students in her class, Teacher B taught a grade 2 class with 22 students, and Teacher C taught 24 students in her grade 1 class. Students were also considered as participants within the research study. Six students from each of the three classes were randomly chosen to provide information concerning their opinions of their physical education lessons.

## The Teacher Development Program

Each teacher participated in a teacher development program. The program was introduced to the teachers in the form of a professional development program. A total of 5.5 hours of individual sessions was provided to each teacher. All three teachers received the same topics in the same set order.

**Topic #1 - The role of physical education for children.** This topic area investigated the role of physical education. In particular, the aims and goals of a quality physical education program were discussed, together with the importance of physical education in the overall educational experience of children. A critical component of this topic was the development of the participant's knowledge and understanding of the value of physical education. Issues such as health and fitness, growth and development, active lifestyle, skill development, personal and social development, self-confidence and self-esteem, and goal setting were addressed in order to for the participant to understand the qualities and the benefits of a quality physical education program. Participants were exposed to research findings that support the inclusion of physical education in the overall educational experiences of children to illustrate the value of physical education in the holistic development of students.

**Topic #2 - The importance and understanding of developmental appropriateness.** In this topic, information was presented and discussed to enhance an understanding of what developmental appropriateness is in a physical education setting, what constitutes a developmentally appropriate program, and how such a program can be designed by a teacher to meet the developmental needs of the children in his/her class. In particular, the following were covered: (a) what a developmentally appropriate physical education program consists of ; (b) what programs need to be and how they can be taught in order to recognize the unique needs of the individual based on his/her cognitive, emotional and social, and physical needs; (c) what the three developmental levels commonly found in elementary school settings are (Developmental Level I - Kindergarten to Grade 2, Developmental Level II - Grades 3 and 4, Developmental Level III - Grades 5 and 6); (d) what the characteristics are that children at these levels exhibit; (e) what the particular learning requirements children in these levels have, and (f) what teaching considerations are required to support learning opportunities at each developmental level.

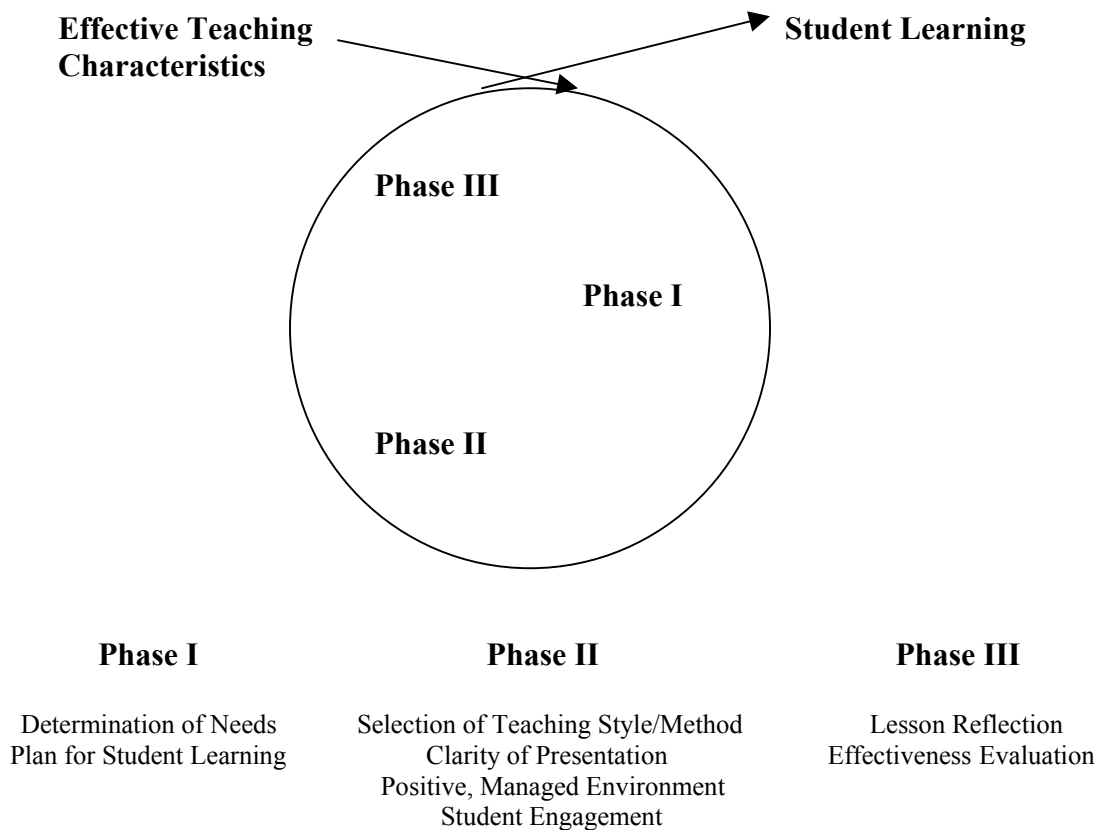
**Topic #3 - Putting theory into practice.** The third topic in the teacher development program considered the issue of taking the theoretical information identified in the review of related literature and placing it into the day-to-day practice of teaching. This topic introduced the research work of Borich (1996) and the reviews conducted by Silverman (1991), Rink (1993), and Mawer (1995) in order to develop a knowledge of the identified effective teaching behaviours and characteristics of teachers, and how this knowledge can be incorporated into regular teaching practice in physical education lessons. The teacher participants were engaged in discussion about how and why each of the identified teaching characteristics is essential for effective teaching. For example, behaviours such as planning were discussed as it is identified as an effective teaching behaviour. During the discussion on planning, considerations such as the importance of planning, knowing how to plan, and what to plan for were covered.

**Topic #4 - Effective teaching.** The importance of student learning in physical education was stressed in this topic. The research work of Placek (1983), Schempp (1983, 1985), and Hickson and Fishburne (2002) were presented and discussed. Ideas for planning for student learning were explored and developed. In particular, the notion of *Busy, Happy, and Good* (Placek, 1983) was discussed in regard to the issues that make a lesson effective. The effective teaching strategies/techniques presented in the previous session were considered in regards to personal teaching habits.

**Topic #5 - Instructional strategy.** This topic aimed to develop an understanding of what a teacher can do to improve his/her instructional strategy. The understanding and selection of teaching styles and methods that are most effective in physical education settings were explored, as was the importance of student engagement (Rink, 1999), and management of the learning environment (Rink, 1993; Mawer, 1995). Participants were introduced to the factors that influence the choice of teaching style and method, for example the learning outcome aimed for, the needs of the learner, the lesson content, and the environment. Also, different teaching strategies were considered. For example, the effectiveness of station work when limited equipment is available, the use of task cards to focus student attention and learning and to minimize time students spent receiving instructions.

**Topic #6 - The effective teaching model, the theoretical framework, and its implementation.** The effective teaching model, designed specifically for this study, was introduced in this topic. The model was developed from the review of related research to provide a focus for the teacher development program. The model incorporated the teacher characteristics that are associated with effective instruction in physical education. The model consisted of three

distinct phases: a thought and planning phase, a decision-making and action phase, and a reflection phase. The structure and content of the teaching model is illustrated in Figure 1. The three-phase model was explained and discussed so the participant understood the various components associated with the model and the theoretical framework upon which it is based. The three phases were discussed and attention was drawn to important features. For example in Phase I, the thought and planning phase of the model, the teacher needs to consider two important features: the determination of student needs (Silverman, 1991) and the planning for student learning (Mawer, 1995; Rink, 1993; Silverman, 1991). This requires the teacher to decide upon the needs of the students in the class with regard to the choice of activity, the developmental appropriateness of the activity, and the curricular relevance and when planning for student learning to determine exactly what is the learning outcome for the lesson and how it might best be achieved. It was discussed why this phase would occur prior to the lesson being taught and comparisons were made between the present practice of the teacher participant and what was aimed for.



**Figure 1. The effective teaching model**

In Phase II, the decision-making and action phase of the model considers what needs to occur during the lesson. It was explained that the teacher needed to consistently consider and assess what is occurring in the lesson and how it serves the learning needs of the students. Teaching style and method, clarity of presentation, the provision of positive and well-managed environment in order to support and optimize the learning situation, and the need to ensure that there is a high level of student engagement were all brought to the teacher's attention and

importance discussed. Phase III of the model consists post-lesson reflection (Carson, 1997; Jagger, 1989) and the evaluation of effectiveness (Borich, 1996; Rink, 1993). It was discussed with the teacher participants that in this phase, the teacher needed to reflect upon the choices, decisions, and actions made during the first two phases of the model. The teacher also needed to evaluate the lesson content and what student learning occurred. From this reflection and evaluation of the effectiveness of what occurred prior to and during the lesson, decisions could be made for future lesson planning, content, and direction.

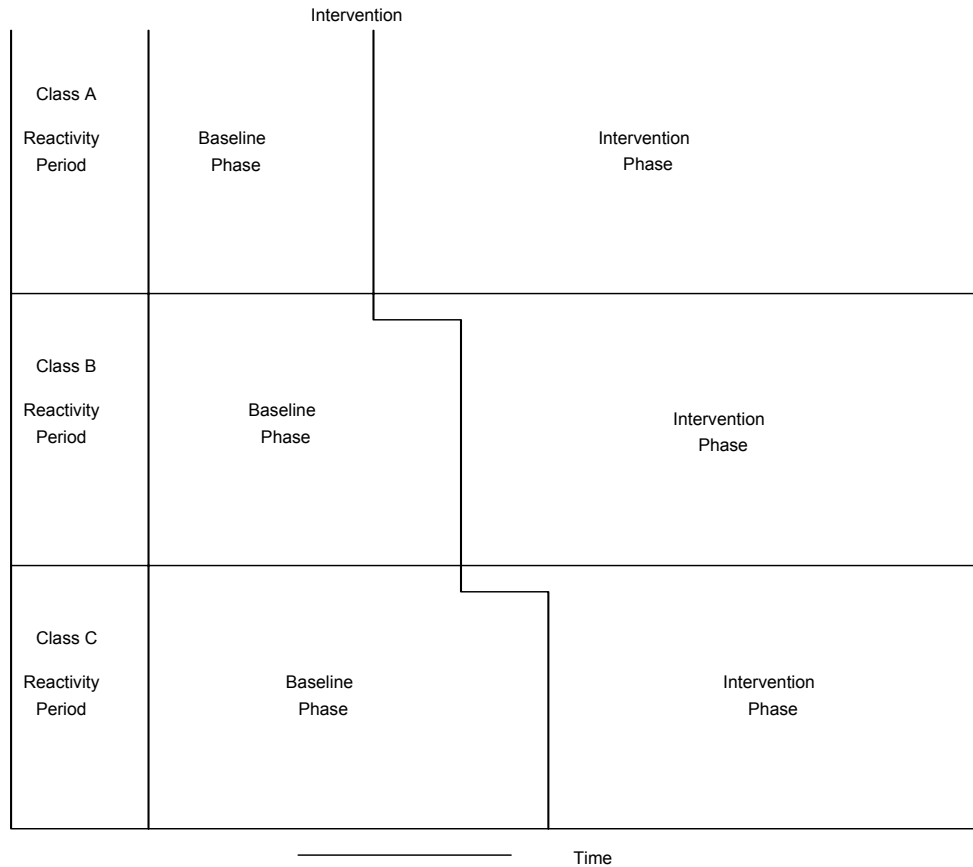
**Topic #7 - The importance of reflection.** This topic considered the importance of post-lesson reflection (Carson, 1997; Jagger, 1989) and the evaluation of lesson effectiveness (Borich, 1996; Rink, 1993). Understanding that teacher development requires observation, analysis, and judgment about what occurs during instruction and using that information to make changes in personal teaching behaviours was a critical feature of this topic. The participant explored ways to reflect upon her teaching performance and student learning, and also developed an understanding of how to evaluate for effectiveness. To create relevance and a connection to the teacher participants present practice, reference was made to evaluation and reflection behaviours that they already practiced in other curricula areas. From this basis, evaluation issues of content appropriateness, monitoring on-task behaviours, and providing sufficient guidance and encouragement were explored and discussed in connection to the teacher participants' personal teaching.

### ***Delivery of the Teacher Development Program Intervention Strategy***

The teacher development program was provided to the teachers in an individual nature. A multiple-baseline design achieved a time-lagged control through the systematic implementation of the teacher development program intervention. The teacher development program intervention was provided to Class A while maintaining a baseline condition in Classes B and C. The teacher development program intervention was then introduced to Class B while maintaining baseline conditions in Class C. Finally; Class C received the same intervention as Classes A and B.

The multiple-baseline design illustrates the effect of an intervention by demonstrating an accompanying change at the time of the introduction of the intervention strategy (Kazdin, 1992). The strength of the design is realized if, following the introduction of the teacher development program intervention, a change is seen in Class A and not in Classes B and C. Consequently, greater strength is realized if corresponding changes occur in Classes B and C after the introduction of the teaching model intervention (see Figure 2). This enables any changes to be attributed to the intervention strategy.

The study design involved the observation of three teachers and their physical education classes. Each class was observed for three lessons prior to the commencement of data collection. These lessons allowed for the children in each class to become comfortable with the presence of the researcher and a video camera in the gymnasium. After allowing for an acclimatization period, further lessons were video taped and used for data analysis.



**Figure 2. Multiple baseline design of the study**

**Data Collection**

The Duration Recording observation method was used to determine any changes in student behaviours through out the study. Duration recording is a systematic observation instrument that describes how students spend their time. The amount of time that students are involved in behaviours such as receiving instructions, managerial activities, and engaged activity were identified by Siedentop and Tannehill (2000) as important for researchers to investigate when studying class environments.

In duration recording, the observer records student behaviour throughout the lesson. Behaviours are recorded according to categories established prior to the onset of data collection. During observation, the observer constantly assesses what 51% of the students in the class are doing. When 51% of the students change what they are doing to another behaviour, the observer makes note of the time, decides on the context of the behaviour and records the behaviour on a recording sheet. Resulting data can be analyzed in terms of the percentage of lesson time spent by the students in each of the established categories. Duration recording can provide a measure of students’ opportunities to practice or learn in a class setting. Rink (1993) concluded that high levels of activity are desirable and that teachers should aim for an activity time level of at least 50% of the total time of a physical education class. As the instrument also allows for the

recording of categories other than activity time, teachers can see where time is being spent that can be changed in order to increase activity time.

To gain insight into the opinions of teachers and students regarding their physical education lesson experiences interview data were collected from the participants. Open format questions were utilized in the personal interview settings. Each of the three teachers involved in the study were interviewed at the onset and at the conclusion the study. Six randomly chosen students from each class were also interviewed in the same manner. The information gained from these interviews provided an understanding of the opinions of the students of their physical education lessons, and the opinions of the teachers concerning the teacher development program and its implementation.

Prior to introducing the teacher development program, teachers were asked to respond to the following style of questions. How would you describe your typical physical education class? What kinds of challenges, if any, are there that you as a teacher of physical education face on a daily or periodic basis? How much time do you normally spend preparing for a typical physical education class? After the teacher development program, the questions focused if changes had occurred. For example, do you think that your teaching has changed? If so, how? What are your opinions of the effective teaching model? Do you think that there has been any change in the students? If so, what? The students were also asked to respond to questions about their physical education lessons. Questions prior to the introduction of the teacher development program were designed to gather information about what had been occurring in their lessons. What do you think of your physical education lessons? How would you describe your typical physical education lesson? At the conclusion of the study the students were again asked questions to see if any changes had occurred. For example, how would you now describe your typical physical education lesson? What kinds of things do you now like to do? Do you still have the same amount of time for physical education?

### **Major Findings**

The teacher development program attempted to change the teaching behaviour of the three participating teachers and hence impact student behaviour. As Wade (1985) suggested, teacher development programs need to not only influence teacher knowledge but also change teacher behaviour and ultimately student learning. Therefore, it was important to intervene upon those variables in the student-learning environment that are controlled by the teacher and that impact the learning environment for students. Namely, the time spent by students in such things as: waiting; transition; management; inappropriate activity; receiving information; engaged activity, and off-task activity.

According to Rink (1993), effective teachers need to minimize the time students spend in activities that are management, transition, inappropriate, or off-task related and maximize the time spent engaged in activity. Minimizing the time spent in non-learning activities and maximizing the amount of time in activities promoting opportunities for learning provides students with optimal learning environments. Rink further suggested that effective teachers needed to attain student activity engagement rates of at least 50% in their lessons.

Prior to the introduction of the teacher development program, student activity engagement rates were not at a level, according to Rink (1993), for optimal student learning to occur. For the three physical education class environments, the mean amount that students were engaged in appropriate activity was 26.5% of lesson time. However, post-intervention results of a mean of 72.0% clearly illustrate that the teacher development program changed the teaching

behaviour of the three teacher participants and, hence, provided the students with a far greater amount of engaged activity time.

Consequently, positive changes also occurred in the other variables in the student-learning environment that were controlled by the teacher such as the amount of time that students spent waiting, in transitional activities, in management situations, in inappropriate activity, receiving information, and in off-task activity. For example, a large decrease was evident in the amount of time that students were listening to the teacher. Prior to the implementation of the teacher development program, students spent a mean of 26.5% of lesson time receiving information, after implementation, the time decreased to a mean of 13.8%. Likewise, wait time decreased from a mean of 5.9% to 0.8% of lesson time, student engagement in inappropriate activity decreased from a mean of 4.3% of lesson time to a mean of 0%, transition time decreased from 11.9% to 9.3%, management activities fell from 6.3% to 2.8%, and off-task behaviours decreased from 9.3% to 1.3% of lesson time. These changes, together with the increase in activity-engaged time, provided the students with an environment that was more conducive to learning than it was prior to the introduction of the teacher development program. As the changes coincided with the introduction of the teacher development program, the positive changes in activity engaged time and decreases in the amount of student time associated with ineffective time use could be attributed to the teacher development program.

A second source of data was gained through teacher and student interviews. The teacher participants provided insight regarding the teacher development program and their teaching of physical education lessons, while the students provided information concerning their physical education lessons. Teacher A declared that her understanding of physical education had changed due to the program. She reported feelings of more confidence, had come to appreciate and understand the planning process better, and had begun to plan for student engagement. Teacher A also reported that being part of the teacher development program was rewarding and beneficial to her professional growth and further remarked that she had successfully used the effective teaching model presented to her in the program in other curricular areas of her teaching in order to increase the amount of learning in other subject areas.

Teacher B initially described herself as "...self-taught, not familiar with the curriculum". However, participation in the study caused Teacher B to declare that she had become much more aware of the role of physical education in a child's overall scholastic development. Similar to Teacher A, Teacher B also remarked that her planning for physical education lessons had changed and lessons had begun to focus on on-task behaviours, student learning, and providing students with developmentally appropriate challenges. Teacher B also concluded that her involvement in the teacher development program was worthwhile and beneficial and that her teaching practices had improved. She also stated that she would continue to use the effective teaching model in her physical education teaching and she, too, would also use it in other subject areas as it had "...changed my teaching practice for the better."

Teacher C enjoyed teaching physical education and had, at the start of the study, described herself as having a comfortable level of knowledge with regards to physical education. She had also participated in a number of professional development activities and regarded planning as an important part of the process of teaching physical education. Although there was an initial level of comfort, at the conclusion of the study, Teacher C found that her understanding of physical education had changed due to her participation. She suggested that she had begun to understand the importance of physical education in the overall development of children and now viewed physical education as a *core subject*. Teacher C further reported that her teaching had changed for the better. It had become more developmentally appropriate and the quality of the

instruction that she provided to her students had improved. Teacher C stated that her participation in the teacher development program was extremely beneficial and professionally rewarding.

In regards to the effective teaching model, Teacher C felt that it was very effective and that it had also had an effect on her teaching in other subject areas, “the level of engagement, especially my language arts, math, and science activity centres has increased significantly through using the same model...I also feel that in these subject areas, my instruction is more effective”.

Overall, the opinions expressed by all three-teacher participants indicated that participation in the teacher development program had a very positive effect on their physical education teaching and was viewed by all the teacher participants to be very beneficial to their professional growth. Further, the teacher participants remarked that the effective teaching model had become a regular part of their teaching repertoire and was also being utilized throughout the school curriculum. The teacher development program was viewed to be very useful in their professional growth and was valued tremendously.

The interview data collected from the students provided valuable insight into their opinions of their physical education lessons. Data collected at the onset of the study indicated that physical education lessons were *fun* and had a very similar format: stretching, running laps, an activity, and ending with more stretching. A thread amongst the student responses concerned the cancellation of physical education lessons for such things as assemblies, finishing class work, special projects, and misbehaviour.

At the conclusion of the study, students identified that changes had occurred and that these changes were for the better. “...doing more things”, “...rather than talking or listening or sitting”, “...busier”, “...I get sweaty” were some of the student comments indicating how lessons had changed. Students had begun to recognize that their lessons were not just keeping them *busy* (Placek, 1983), they also noted that they were learning, “...cool, new things”. The thought of learning as being part of the physical education lesson was not mentioned at the start of the study. Another theme amongst the responses concerned the use of time. Classes had become “far busier”, with “less time spent sitting or watching”, and more time spent in performance and practice. Lessons were focussed, had a purpose, and experienced little wasted time ultimately providing extra time for practice and skill improvement. Students also stated that there was a difference in the time allocated to physical education. In a clear change from earlier statements, students thought that their lessons had become more frequent and that “everyone went to the gymnasium” to participate in their physical education lessons.

In order to gain an impartial view, the principal of the school provided some overall thoughts. The principal noted that physical education lessons seemed to have “...greater variety in activity, more involvement of students” and that teachers were “planning and matching of activities to student ability levels.” According to the principal, these changes had created a “...strong positive improvement in teaching...more focused on the needs for the students. Students seem more involved, and enjoy the classes more...everyone is active and challenging themselves to some skill or task.”

Similar to the teacher participants, the principal also felt that the teacher development program had influenced teaching behaviour beyond the gymnasium, “All that participated seem to have transferred the idea of engagement to other subject areas. Teachers look for ways to fill lesson time with challenges and activities that match student needs.” The principal also commented upon the design of the teacher development program, “...staff believed it was the key element to putting in to place the growth in their own teaching repertoires. They loved it!”

Supporting the contention that peer coaching creates a conducive environment for the changing of teaching behaviour (Seyforth, 1996), the principal further suggested that the “one-on-one coaching ensured that not only did they improve their teaching in physical education but also their teaching in other subject areas.” It was further mentioned that:

Too often we receive simple tricks or one-shot ideas without fully understanding the theory behind a change, by providing the theory as well as modeling and coaching, my teachers were able to own the ideas themselves and transfer it to other places and time.

Finally, the principal commented:

One of my teachers is recognized as being in the top one per cent of teachers in the province and she has told me it has been the best experience she has had in 18 years. She has increased her level of student engagement significantly in all areas of her teaching.

### **Concluding Thoughts**

Numerous educational jurisdictions now refer to *life-long active living* as a goal of their physical education curriculum. In such curricula, it is hoped that physical education can promote a positive attitude toward physical activity and increase participation rates that can offset and reverse the disturbing present trends of inactivity and poor health in children (Hickson, 2003). It is also thought that a well-structured physical education program can enhance and improve the movement proficiency and self-concept of students, thereby promoting the chances for life-long involvement in physical activity and, ultimately, better health.

As the knowledge, skills, and attitude to become a physically educated person are necessary and key components of a physical education program, educators need to teach for this understanding through effective teaching practices (Hickson, 2003). It is, therefore, essential that such effective teaching practices have student learning as a central consideration and basic tenet. Learning has to be foremost in program planning, lesson delivery, and lesson effectiveness reflection. Teachers of physical education have the responsibility to use those characteristics and skills that are effective for student learning. It is only then that students will receive the instruction that they need to gain the associated health benefits from being physical active and to truly become physically educated (Hickson & Fishburne, 2001).

This study indicates that a teacher development program that emphasizes student learning can change student behaviour and help to promote an effective learning environment. The results stress the importance of teachers utilizing techniques of effective teaching. The three teachers and the learning environment in their physical education lessons experienced positive changes through the application of effective teaching behaviours emphasized in the teacher development program and the effective teaching model. It is recommended that the nature of this study is an important area of future investigation and worthy of further research in order to extend the understanding of effective physical education teaching. Such replication would provide confirmation to the extent that the teacher development program and the effective teaching model are important and valid additions to the physical education teaching literature.

## References

- Bellon, J. J., Bellon, E. C., & Blank, M. A. (1992). *Teaching from a research knowledge base: A development and renewal process*. New York: Macmillan Publishing Company.
- Berliner, D. C. (1987). Simple views of classroom teaching and a simple theory of classroom instruction. In D. Berliner & B. Rosenshine (Eds.), *Talks to teachers*. (pp. 93-110). New York: Random House.
- Bloom, B. S. (1981). *All our children learning*. New York: McGraw-Hill.
- Borich, G. D. (1996). *Effective Teaching Methods* (3rd ed.). New Jersey: Prentice-Hall.
- Borys, A. H. & Fishburne G. J. (1986). Student teachers' conceptions of successful and unsuccessful teaching: Implications for student learning and teacher preparation. Proceedings of the 1986 International Conference on Research in Teacher Education and Teaching in Physical Education (124-129). Vancouver: University Of British Columbia.
- Brophy, J. (1979). Teacher behaviour and its effects. *Journal of Educational Psychology*, 71, 733-750.
- Brophy, J., & Good, T. (1986). Teacher behaviour and student achievement. In M. Wittrock (Ed.), *Handbook of research on teaching*, (3rd ed.) (pp. 328-375). New York: Macmillan.
- Carson, T. R. Reflection and its resistances: Teacher education as a living practice. In T. R. Carson & D. Sumara (Eds.), *Action research as a living practice* (pp. 77-88). New York: Peter Lang Publishing, Inc.
- Dodds, P. & Placek, J. H. (1991). Silverman's RT-PE review: Too simple a summary of a complex field. *Research Quarterly for Exercise and Sport*, 62, (4), 365-368.
- Fishburne G. J. & Borys, A. H. (1987). *A comparison between elementary school teachers' and student-teachers' conceptions of successful teaching*. Proceedings of the 30th ICHPER World Congress and the 34th CAHPER Conference in conjunction with the British Columbia Physical Education Teachers' Conference (pp. 82-85). Vancouver: University of British Columbia.
- Gage, N. L. (1978). *The scientific basis of the art of teaching*. New York: Teachers College Press.
- Harris, A. (1999). *Teaching and learning in the effective school*. Brookfield, Vermont: Ashgate.
- Hickson, C.N. (2003) Putting education back into P.E. *International Journal of Learning*, 10, 401-409.
- Hickson, C. N., & Fishburne, G. J. (2001) Learning through effective teaching: Research studies in physical education. In B. Cope, & M. Kalantzis (Eds.), *Learning for the Future*. Proceedings of the Learning Conference 2001. Spetses: Greece.

- Hickson, C. & Fishburne, G. J. (2002, April). *Effective Teaching in Elementary Schools: Subject Area Differences*. Poster session at the Annual Convention of the American Alliance for Health, Physical Education, Recreation & Dance, San Diego, CA.
- Jagger, A. M. (1989). Teacher as learner: Implications for staff development. In G. S. Pinnell, & M. L. Matlin (Eds.), *Language learning in classrooms*. Newark, DE: International Reading Association.
- Kazdin, A. E. (1992). *Research design in clinical psychology*. (2<sup>nd</sup> ed.). New York: Macmillan Publishing Company.
- Kirchener, G., & Fishburne, G. J. (1998). *Physical education for elementary school children*. (10th ed.). New York: McGraw-Hill.
- Mawer, M. (1995). *The effective teaching of physical education*. London: Longman.
- Medley, D. M. (1987). Evolution of research on teaching. In M. J. Dunkin (Ed.), *The International encyclopedia of teaching and teacher education*. (pp. 105-113). New York: Pergamon.
- Placek, J. H. (1983). Conceptions of success in teaching: Busy, happy, and good? In T. Templin and J. Olsen (Eds.), *Teaching in physical education*. (pp. 45-56). Illinois: Human Kinetics Publishers.
- Rink, J. E. (1993). *Teaching physical education for learning*. St. Louis: Mosby Year Book.
- Rink, J. E. (1996). Effective instruction in physical education. In S. J. Silverman, & C. D. Ennis (Eds.), *Student learning in physical education: Applying research to enhance instruction* (pp. 171-198). Champaign, Illinois: Human Kinetics.
- Rosenshine, B. (1987). Explicit teaching. In D. Berliner, & B. Rosenshine (Eds.), *Talks to teachers*, (pp. 75-92). New York: Random House.
- Schempp, P. G. (1983). Learning the role: The transformation from student to teacher. In T. Templin and J. Olsen (Eds.), *Teaching in physical education*. (pp. 109-117). Illinois: Human Kinetics Publishers.
- Schempp, P. G. (1985). Becoming a better teacher: An analysis of student teaching experience. *Journal of Teaching in Physical Education*, 4, 158-166.
- Seyforth, J. T. (1996). *Personnel management for effective schools*. Boston: Allyn and Bacon.
- Siedentop, D. (1998, April). *In search of effective teaching: What we have learned from teachers and students*. McCloy lecture presented at the AAHPERD Annual General Meeting, Reno, NV.
- Siedentop, D. & Tannehill, D. (2000). *Developing teaching skills in physical education*. (4th ed.). Mountain View, CA: Mayfield Publishing Company.
- Silverman, S. (1991). Research on teaching in physical education. *Research Quarterly for Exercise and Sport*, 62, (4), 352-364.

Wade, R. K. (1985). What makes a difference in in-service teacher education? A meta-analysis of research. *Educational Leadership*, 42, 48-54.